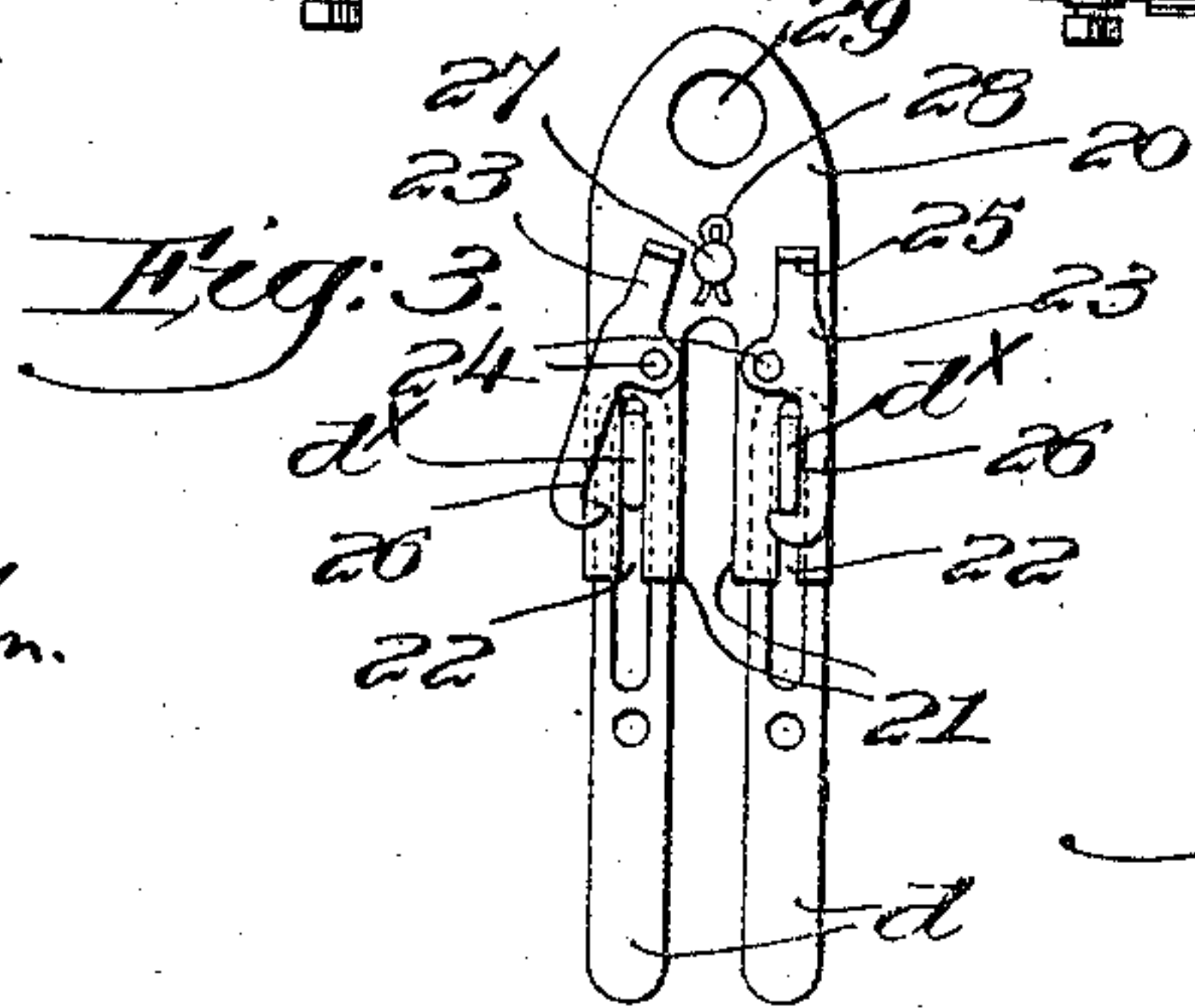
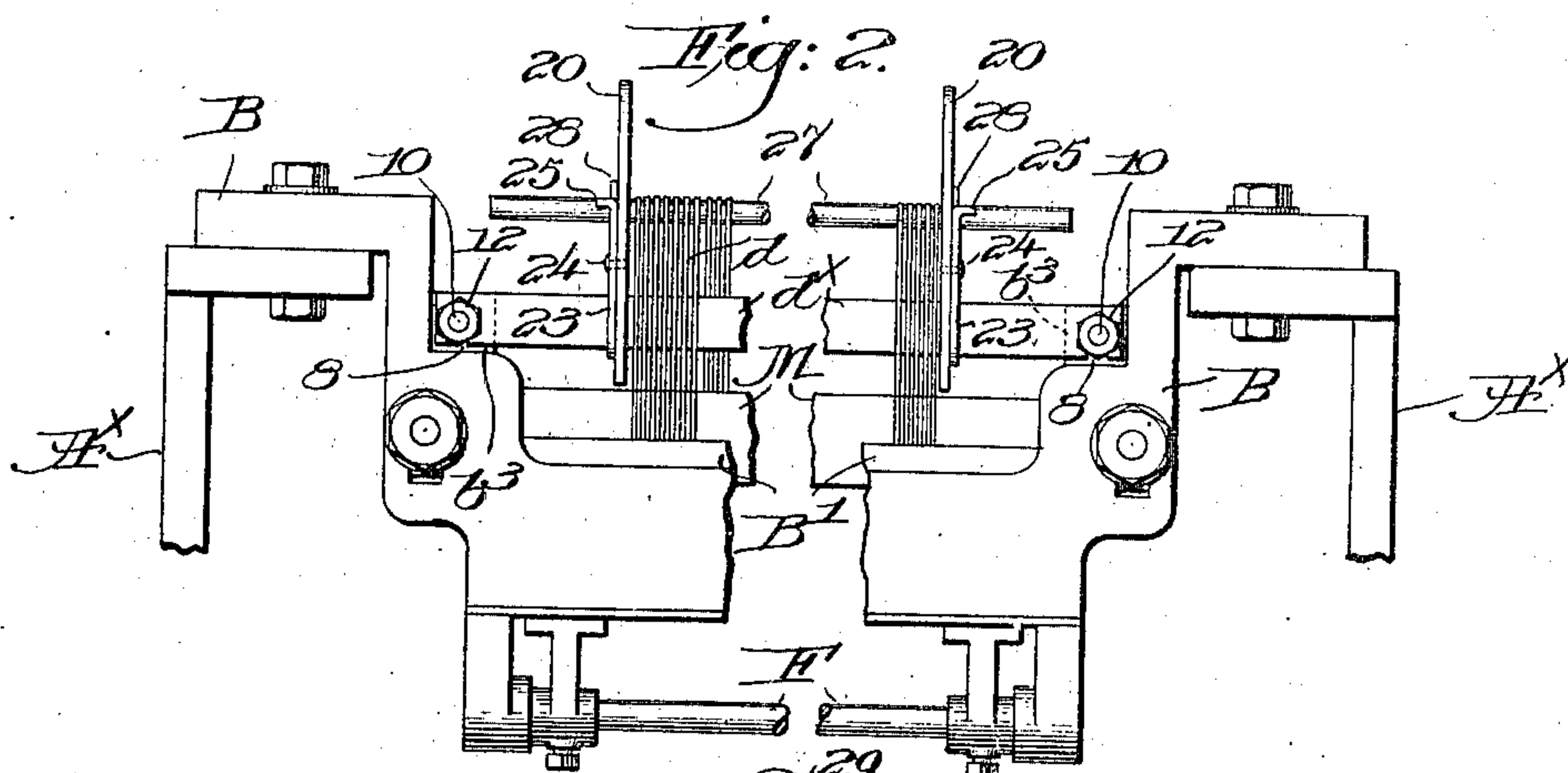


976,273.



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UNITED STATES PATENT OFFICE.

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MEANS FOR FACILITATING WARP CHANGE IN LOOMS.

976,273.

Specification of Letters Patent.

Patented Nov. 22, 1910.

Application filed August 19, 1910. Serial No. 577,911.

To all whom it may concern:

Be it known that I, WILLIAM McCASLIN, a citizen of the United States, and resident of Hopedale, county of Worcester, State of Massachusetts, have invented an Improvement in Means for Facilitating Warp Change in Looms; of which the following description, in connection with the accompanying drawing, is a specification, like characters on the drawing representing like parts.

This invention has for its object the production of means for facilitating a change of the warp in a loom, whereby the warp and its stop-motion detectors can be removed intact, either when a new warp is to be substituted or if the warp is to be laid aside temporarily.

My present invention is more particularly designed for use in warp stop-motion mechanism wherein the detectors are thin, flat metallic strips having closed slots for the reception of the guide or supporting bars.

I have shown my invention in connection with a warp stop-motion of the type wherein the detectors are mounted independently of the shedding mechanism, as in United States Patent No. 699,117 granted April 29, 1902 to Stimpson.

The various novel features of my invention will be fully described in the subjoined specification and particularly pointed out in the following claims.

Figure 1 is a transverse section of a portion of a loom with a warp stop-motion applied thereto of the type referred to, and above the detectors I have shown a part of the removable means for retaining the detectors and their supports in position on the threads when the warp is removed, to illustrate the manner in which my invention is used; Fig. 2 is a front elevation of the stop-motion mechanism, centrally broken out, and showing the removable retaining means applied, in readiness for the removal of the detectors; Fig. 3 is an enlarged view in elevation of one of the retaining members.

In Fig. 1 the lay A, reed A', harnesses C, and whip-roll D are all of usual construction, each side of the loom being provided

with a stand A* supporting a bracket B which carries the rock-shaft F having the attached feeler f, the back-stop bars B', B', and warp rest M being mounted on the brackets B as in the Stimpson patent referred to. The detector-supports d*, extended through longitudinal slots d' in the thin flat metal detector d having warp-eyes d², are as in said patent, each support d* having a notch 8, Fig. 2, to fit over the shank of a transverse, headed bolt 10 passed through the lug b^s of each bracket B, a nut 12 on each bolt clamping the supports securely in place under normal conditions. Each bank or series of detectors d is strung on one of the supports d*, and in my present invention I have provided means for engaging the two supports near their outer ends, beyond the detectors, and locking such supports together so that they and their detectors can be removed bodily from the loom when the nuts 12 are loosened. Each of the two retaining members is made as a flat metal plate 20, bifurcated to present two separated depending legs 21, each having a longitudinal slot 22 open at its lower end, said slots being in parallelism and spaced apart equal to the distance between the two detector-supports d*. A latch 23 is pivoted on each leg at 24, above and at the inner side of the slot 22, the upper end of the latch being preferably out-turned, at 25, and the inner edge of the latch is notched to form a substantially rectangular seat 26, slightly longer than the depth of a detector-support. Each of the plates is apertured to receive a connecting rod 27, provided with suitable means, as cotter pins 28, to limit the outward movement of the plates on the rod.

When the warp is to be taken off the loom the latches 23 are swung outward, as shown at the left, Fig. 3, and as shown in Fig. 1, wherein the retaining means is illustrated in position to be applied, such movement of the latches uncovering the slots 22. The two plates 20 are now lowered so that the open slots 22 receive the detector-supports d*, and the latches are pushed inward, toward each other, until each support enters the seat 26 of the adjacent latch (see the

latch at the right Fig. 3). The supports d^x are now locked in the slotted legs 21 of the plates 20, said plates being outside the banks of detectors, as shown in Fig. 2, and by loosening the nuts 12 said detector-supports can be lifted out, the connecting rod 27 serving as a handle for the purpose. If desired the plates 20 can be directly lifted by the weaver by means of the finger-holes 29 in the plates. The detectors and their supports are thus removable bodily, with the reed and harnesses, whether the warp is to be taken off the loom temporarily or whether a new warp is to be tied in, and in the latter case the old warp will be cut in front of the reed and back of the stop-motion. Inasmuch as the proper relationship or spacing between the detector-supports is maintained by the means described it will be apparent that in restoring such parts to the loom the supports are positioned to be directly applied to the bolts 10, a great deal of time being thereby saved. Preferably the latches are pivoted to the end plate 20 tightly enough to be held frictionally in operative or inoperative position until removed therefrom by the weaver in the use of the device.

The end members or plates 20 are bifurcated as described to enable the legs 21 to clear the warp-rest M when the device is used, and as the seats 26 are offset from the pivots 24 the weight of the supports d^x and the detectors tends to maintain the latches closed or operative when the parts are moved from place to place.

When the detectors and their supports are restored to a loom the supports d^x are first clamped in place and then the latches are swung outward to release the supports, whereupon the retaining means is lifted up and out of the way, the legs 21 being thereby drawn off from the detector-supports.

Various changes and modifications in details of construction and arrangement may be made by those skilled in the art without departing from the spirit and scope of my invention as set forth in the claims annexed hereto.

Having fully described my invention, what I claim as new and desire to secure by Letters Patent is:—

1. In a warp stop-motion for looms, having series of longitudinally slotted detectors to cooperate with the warp threads, a transverse support extended through the slots of each series of detectors and adapted to be removably mounted in the loom, and means to cooperate temporarily with said supports and enable them with their detectors to be removed bodily from the loom, said means comprising connected members to cooperate with the supports outside the series of detectors thereon, and devices to lock the supports to said connected members.

2. In a warp stop-motion for looms, having series of longitudinally slotted detectors to cooperate with the warp threads, a transverse support extended through the slots of each series of detectors and adapted to be removably mounted in the loom, and means to cooperate temporarily with said supports and enable them with their detectors to be removed bodily from the loom, said means comprising connected end members having open slots to receive the detector-supports near their ends, and devices carried by said members to cooperate with and retain the supports in the slots of the end members, whereby the supports are maintained in normal position relatively to each other when removed from the loom.

3. In a warp stop-motion for looms, a plurality of parallel detector-supports adapted to be removably mounted in the loom, series of detectors to cooperate with the warp threads and each longitudinally slotted for the reception of a support, and temporarily attachable means to effect bodily removal of the supports and their detectors, said means comprising parallel end plates and a connecting rod, each plate having slots open at their lower ends to receive the detector-supports, and latches pivotally mounted on the plates and provided with seats to receive the supports and retain them in the slots of the plates when the latter are lifted to withdraw the detector-supports from the loom.

4. Means for facilitating warp change in looms, comprising parallel end members having depending legs provided with parallel longitudinal slots open at their lower ends, to receive transverse detector-supports removably mounted in the loom, a latch pivotally mounted on each end member adjacent a slot and having an open seat on its inner side, to receive the detector-support and retain it in the slotted leg, whereby the said supports can be removed bodily from the loom and maintained properly spaced apart when removed, and a permanent connection between said end members, outward movement of the latches on their pivots releasing the detector-supports to permit withdrawal of the slotted end members.

5. In a warp stop-motion for looms, a plurality of parallel detector-supports adapted to be removably mounted in the loom, series of detectors to cooperate with the warp threads and each longitudinally slotted for the reception of a support, and temporarily attachable means to effect bodily removal of the supports and their detectors, said means comprising connected parallel end plates bifurcated to present separated depending legs, each leg having a longitudinal slot therein open at its lower end, to receive a detector-support, a locking latch pivoted on each leg adjacent the slot and adapted when oper-

5 atively positioned to close the slot below the detector-support and thereby retain said support in the leg, and a finger-piece on each latch, the end plates engaging the detector-supports outside the series of detectors thereon and maintaining the supports properly spaced apart when removed from the loom.

In testimony whereof, I have signed my name to this specification, in the presence of two subscribing witnesses.

WILLIAM McCASLIN.

Witnesses:

WILLIAM SALMOND,
E. D. OSGOOD.